

Why The Marine Corps Needs The LVSR

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Why the Marine Corps Needs The LVSR

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*“The Marine Corps embraces the new century with confidence; poised to meet both the crises of today and the challenges of tomorrow. The clear lesson of the past is that this focus on current and future requirements is essential if the Corps is to continue to fulfill its broad responsibilities.”* (Concepts and Issues 2001 viii)

General James L. Jones

Commandant of the Marine Corps

In order to maintain the capability to support high tempo operations over a vast battlespace while keeping up with rapidly moving and widely dispersed maneuver elements, the time has come for the implementation of the Logistics Vehicle System Replacement (LVSR). Despite procurement challenges, the need to address the heavy fleet deficiency is necessary due to the increasing costs associated with maintaining the old system, changes in Marine Corps warfighting concepts, and technological advances.

The Logistics Vehicle System (LVS) was brought into service in 1985. The system was created to replace an aging fleet of M123 10-ton tractor trucks. This 16.5-ton vehicle provides the Marine Corps with a heavy tactical lift capability. It transports bulk cargo, bulk liquids (both fuel and water), and ammunition. Combat service support

motor transport units who primarily haul supplies from beachheads, ports, railheads, and airfields to combat service support areas use the LVS. It is a modular system consisting of a MK48 front power unit coupled to one of the following five interchangeable rear body units: MK14 (container transporter/ flatbed), MK15 (wrecker/ recovery), MK16 (5<sup>th</sup> wheel semi-trailer adapter), MK17 (dropside cargo), or the MK18 (self-loading container and ribbon bridge transporter). There are approximately 1800 front power units and 2200 rear body units in the Marine Corps inventory (Land Warfare Systems, Military Analysis Network). See Figure 1

The current LVS is too costly to maintain. The Marine Corps originally intended for the LVS to receive a mid-life rebuild beginning in fiscal year 1995 in order to repair or replace major components (i.e. engines, transmissions, etc.). However, this rebuild never occurred. Eventually these major components began to malfunction (due to wear and tear) decreasing the using unit's capabilities for mission accomplishment. As the years went on, the vehicle system became more maintenance intensive. In February 2000, it was estimated that the cost to rebuild the LVS front power unit would be approximately \$164,000 per copy (MK-48 LVS Rebuild Program Brief, Feb. 2000: p. 5). To put things

in perspective, it should be noted that the cost for the purchase of a brand new LVS front power unit is approximately \$172,000 per copy (Marine Corps Logistics Bases Cost Estimate Sheet, Nov. 99). Consequently, as the current LVS reaches the end of its service life, the Marine Corps finds itself having to make a decision. According to Captain William D. Shannon, former Heavy Fleet Team leader and Project Officer, Marine Corps Systems Command, "The LVS will begin to reach the end of its service life in 2005. As the system reaches the end of its service life, corrosion becomes a factor and maintainability becomes harder. This means that more money is needed to keep it running."(qtd in National Defense Magazine).

As the Marine Corps adjusts its vision to cope with an ever-changing world, our combat service support assets must be able to consistently perform during high tempo operations and keep pace with the maneuver elements. The increased speed, mobility, and fuel consumption of mechanized/motorized forces further magnifies the inability of the current LVS to maintain the tempo needed to support the Marine Air Ground Task Force in combat operations. Further, the LVSR supports the Marine Corps concept of Expeditionary Maneuver Warfare (EMW). EMW is the Marine Corps' capstone concept for the 21<sup>st</sup> century. EMW describes

the "axis of advance" for enhancements. The concept focuses on strategic agility, operational reach, tactical flexibility, support and sustainment, and joint/multinational enabling (Concepts 15). EMW not only embraces the Marine Corps philosophy of maneuver warfare, it also encompasses the concepts of Operational Maneuver From The Sea (OMFTS) and Sustained Operations Ashore (SOA). The logistics community is committed to supporting the EMW concept by exploring ways to reshape our Marine Air Ground Task Forces (MAGTFs) by increasing their combat power, operational versatility, utility, and deployability (Concepts 78). Achieving the full promise of this concept will require the continued development of improved capabilities in speed, stealth and precision—which the Marine Corps has always valued, but which now underlie our path to the future (Concepts 15).

The LVSR will resolve the current heavy fleet deficiencies. Some of these deficiencies are listed below.

1. Off-road payload capacity The current system is limited to 25,000 pounds (lbs) cross country and 45,000 lbs on highway.
2. Available power In order for the LVS to carry an increased payload, a more powerful engine will be needed.

3. Ride quality Riding off road in the current vehicle system is uncomfortable. A rough ride not only affects the operator, but it can also cause cargo to shift which increases the risk of an accident.

4. Corrosion control The current system is experiencing problems with corrosion and rust. Some of this can be attributed to the age of the vehicles. (2000 Transportation Symposium).

Listed below are some of the technological improvements that the LVSR will offer (Nevada Automotive Testing Center LVSR Presentation 20). See Figure 2

1. Anti-locking brake system (ABS) This capability enables the vehicle system to come to a stop within a shorter distance. This reduces the risk of accidents.

2. Larger cab This feature provides more room for the operator and his/her assistant driver (A-driver).

3. Bucket seats with 5-point safety harness Bucket seats will provide more comfort for the operator and A-driver while the harness provides additional safety.

4. Independent suspension This feature will provide a smoother ride while traveling off road.

5. Interior lighting This feature will give the operator and A-driver increased visibility when performing functions such as map reading.

6. Reduced cab noise This feature makes it easier for the operator to communicate with the A-driver and better enables him/her to hear radio transmissions.

7. Integrated skid plate (7.62 small mine survivability)

This feature will be added to give the operator and A-driver a better chance to survive a direct hit from an anti-personnel mine.

8. Utilization of JP-8 fuel This capability will improve the vehicle system's overall fuel economy and increase the distance it can travel before requiring to be refueled.

Moreover, the LVSR will achieve interoperability between the Marine Corps, NATO and the United States Army, a capability the Marine Corps previously lacked. It will accomplish this by being able to interface with the United States Army Palletized Load System (PLS) flatracks as well as the Army's Container Roll-on/Roll-off Platform (CROP) (Transportation Symposium).

Despite possible monetary setbacks, efforts are being made to make the LVSR program a reality. In traditional acquisition programs, according to Captain Shannon, former Heavy Fleet Team Leader and Project Officer, Marine Corps Systems Command, generally one-third of the cost goes to development and production and two-thirds of the cost to

life-cycle management. "In this program (the LVSR program), we are trying to shift the balance and maybe spend more upfront in order to reduce the maintenance tail" (qtd in National Defense 3). Admittedly, the feasibility of initiating a program to develop any weapon system or piece of equipment is dependent upon the availability of funding. In addition to the LVSR program, there are a number of other major end items competing for limited procurement funds. The frontrunner in this effort is the Advanced Amphibious Assault Vehicle (AAAV). This, obviously, poses a potential problem in terms of making the LVSR concept an immediate reality. The AAAV "will take most of the Marine Corps procurement dollars when it goes into production in 2006" said Colonel William D. Johnson, Director of Combat Support and Logistics Systems, Marine Corps System Command during a conference on tactical vehicles held in Monterey, California. "A new LVS replacement," Johnson said, "needs to be in production by 2005 or 2006, before the AAAV takes all the procurement money, in essence, I can't fool around with a seven-year long developmental effort to get there." (qtd in National Defense 1).

In summary, our focus of effort should be on giving Marines the absolute best equipment that can be provided. As the world around us continues to change, we find

ourselves forced to either change with it or risk being left behind. Because of this, it is essential that we evolve into a fighting force of the future. The Commandant of the Marine Corps best expressed this when he made the following statement. "For much of the last decade the Corps was compelled to slow the pace of modernization in order to maintain current readiness. It was a problem not specific to the Corps, as all of the Armed Forces faced the same challenge in an era of reduced budgets and increased operational commitments. While recent budget increases have helped, we still struggle to modernize after the long "procurement holiday." Replacing our old and worn out systems is an absolute priority" (Concepts ix)

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